

No. 10.— *A New Species of Peripatus from the Mountains of Northern Peru.*

CONTRIBUTIONS FROM THE ENTOMOLOGICAL LABORATORY OF THE  
BUSSEY INSTITUTION, No. 131.

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ON a recent trip to Peru, Mr. G. K. Noble, Zoölogist of the Expedition to Peru, under the joint auspices of the School of Tropical Medicine and the Museum of Comparative Zoölogy, secured six fine specimens of *Peripatus* which represent an hitherto undescribed species. These were obtained at Tabaconas, near Huancabamba at an altitude of about 6000 feet. Tabaconas is on the third or eastern range of the Cordilleras less than 100 miles south of the Ecuadorian boundary and some 200 miles south of Cuenca in Ecuador where *Peripatus cameranoï* was discovered by Festa over twenty years ago. The new species is closely related to this Ecuadorian form, and also to several others from the same region, but I feel satisfied that it is specifically distinct from all of them.

The specimens were found by Mr. Noble while searching for reptiles beneath stones along the roadside and occurred in a moderately dry locality. From observations which he made on the general fauna, he regards the area inhabited by the *Peripatus* as distinctly a narrow extension of the Ecuadorian region and not similar to the other Peruvian places either due east or west where he collected in travelling inland from the arid coastland.

The species falls into the group of andicolous species as defined by Bouvier and separated as the subgenus *Oroperipatus* by Cockerell in 1908. Since then *Oroperipatus* has been elevated to generic rank by Clark. The new form may be known as:

*PERIPATUS (OROPERIPATUS) PERUVIANUS*, sp. nov.

*Size and form.* All of the females, four in number are rather stoutly built, broadest just before the middle and gradually narrowed behind. They range in width from 7.5 to 9.0 mm., but as they are undoubtedly somewhat contracted, must have been more slender in life. One is

quite broad anteriorly and more slender than the others posteriorly, but the approximation of the anterior pairs of legs shows this to be due to a contraction of the anterior half of the animal. There is very little variation in length as can be seen from the following measurements of all four female specimens.

	Length	Width	Legs
Type	59.0 mm.	9.0 mm.	37 pairs
Paratype	56.0 mm.	8.0 mm.	36 pairs
Paratype	55.0 mm.	7.5 mm.	36 pairs
Paratype	61.0 mm.	8.5 mm.	37 pairs

*Legs.* The number of pairs of legs varies from 36 to 37 in the female, two having the former and two the latter number. In the male, as shown by two specimens there are 34 pairs. Each leg has five well-developed creeping pads, the fifth usually considerably narrower

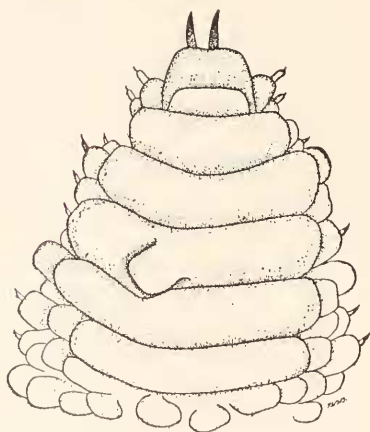


Fig. 1.—*Peripatus peruvianus* Brues. Nephridial tubercles of the fourth pair of legs.

than the fourth and occasionally somewhat reduced in length, although usually almost as long as the fourth. The first is broader and the three following of about equal width as a rule, although frequently the fourth is distinctly narrower and sometimes scarcely wider than the fifth. The nephridial tubercles of the fourth and fifth pairs of legs (Fig. 1) are nearly included in the third creeping pad which is very deeply emarginate, but not completely divided by them; the fourth pad is distinctly emarginate, but not deeply excavated along its distal edge opposite the tubercle. There

are four pedal papillae on each leg, very rarely five in three of the four specimens, while the fourth shows on a considerable number of the anterior legs five well-developed papillae. The fifth papilla is rarely as large as the others, and sometimes occurs between the pair on the anterior or posterior edge of the foot, or either above or below them. Bouvier has regarded the presence of extra papillae on certain legs as a specific character, but it is evident at least in the case of the

present form that it must represent, to some extent at least, individual variation. While I cannot be sure that more of the examples show no legs with five papillae, it is very evident that one of them differs quite conspicuously from the others in this respect.

*Integument.* On each body-segment there are two body-folds which are incomplete, terminating about halfway between the median line and the base of the legs. The alternate body-folds differ slightly but regularly in width. This difference is slight and might easily be overlooked, but their papillae accentuate the variation since the larger papillae of alternate folds vary considerably in size. Thus on the broader folds the largest papillae are nearly twice as large as those on the narrower folds although there is practically no difference in the size of the small primary papillae on alternate folds. The largest papillae have an evenly rounded or slightly transversely oval base and are about as high as broad, with their nipple-shaped apex short and acute. The smaller primary papillae number most commonly three between a pair of large ones; not infrequently however, especially on the narrower folds only two occur; very rarely there are four, and occasionally five, in which case the middle one is nearly always markedly enlarged and the arrangement approaches that where there are two small ones between a pair of large ones. Aside from this very sparse scattering of medium sized papillae there is no tendency for any intergradation between large and small papillae. Accessory papillae are almost entirely absent; most of the body-folds show none at all, and an occasional fold one or two of very small size toward the edge of the fold.

*Color.* In life, according to Mr. Noble, the body is uniformly deep brown in color with a distinct yellowish band forming a collar behind the antennae. After nearly a year in alcohol, the band has lost its original color and shows as a paler area, almost white and very conspicuous in one specimen, and less noticeable in the others; in one especially, it is only slightly evident. It is quite broad, including from 17 to 23 body folds. The alcoholic specimens have also developed quite conspicuous body-markings which show as a zig-zag line extending along each side of the body halfway between the legs and median line, the angulations extending laterally opposite each leg and medially between the legs. Sometimes a distinct dark streak extends downward toward each leg. Between the darker markings and excepting the dark dermal papillae, the integument is greatly bleached and is of a dirty yellowish lilac tinge both above and below and on the legs.

*Mandibles.* (Fig. 2.) The mandibles have two well-developed accessory teeth and a less prominent but more heavily chitinized third one. The blade bears seven or eight denticles, the last two or three of the series much smaller in size.



Fig. 2.—*Peripatus peruvianus* Brues. Mandible.

*Type.* M. C. Z. 314. Described from the type, three female paratypes, M. C. Z. 315–317, and two males, M. C. Z. 318–319, Tabaconas, near Huanca-bamba, Peru, August, 1916. G. K. Noble.

*Relationships.* The present form is quite closely similar to several others already known from Ecuador and western Colombia, and finds a place in the

group of species from this region, the members of which have been carefully studied and described by Bouvier (Ann. sci. nat. Zool., 1907, sér. 9, 2, p. 80–119). It is, however, readily distinguishable from all of them by anatomical characters, and must I think rank as a species rather than as a subspecies, particularly as it is difficult to associate it with any single described form to the exclusion of others.

By the alternation in width of the body-folds, the presence of five pedal papillae on some of the legs and the large number of legs, *P. peruvianus* falls at once into the group which includes *P. ecuadorensis*, *P. lankesteri*, *P. tuberculatus*, *P. quitensis*, and *P. cameranoi*.

*P. ecuadorensis* is at once distinguished from all the others including the present new species by the absence of segmentally arranged incomplete dermal folds. It differs from *P. peruvianus* also by its more numerous legs and by the fact that smaller dermal papillae are much more numerous between each pair of large papillae. *P. lankesteri* is more difficult to separate from *P. peruvianus*, but in the arrangement of the integumentary papillae is very different. The former possess numerous accessory papillae which are almost entirely absent in the latter. *P. tuberculatus* has the accessory papillae more numerous and is consequently less like *P. peruvianus* in this respect, it differs also in possessing the rudiment of a sixth creeping pad on the foot and the presence of only four pedal papillae on all the legs. *P. quitensis* has not been very accurately described (*cf.* Bouvier, *l. c.*, p. 110), and

evidently resembles the present species closely. It has however, 36 pairs of legs in the male instead of 34 and from Bouvier's figure (*t. c. p.* 111, fig. 59) the papillae are evidently of much more nearly equal size, especially on the alternately narrower dermal folds; also the nephridial tubercle of the fourth pair of legs completely bisects the third creeping pad, which is not the case in *P. peruvianus*. The last previously described species of this group *P. cameranoi* is not very well known and occurs in a part of Ecuador which is close to the portion of Peru in which *P. peruvianus* was collected. Nevertheless the two seem to be distinct. In *P. cameranoi* the primary papillae are of rather variable size, but none are remarkably larger than the others whereas in *P. peruvianus* such is by no means the case. Also the Ecuadorian species has only four creeping pads with the vestige of a fifth and the nephridial tubercle of the fourth and fifth legs bisects completely the third creeping pad.

From the foregoing comparisons it appears that while *P. peruvianus* is closely related to a number of other species from the same region, it can not be regarded as conspecific with any of them.